

TESTIMONY OF STEVEN K. YOUNG

FOR

DUKE POWER

PSCSC DOCKET NO. 2003-003-E

1 Q. PLEASE STATE YOUR NAME, ADDRESS AND POSITION WITH DUKE  
2 POWER.

3 A. My name is Steven K. Young and my business address is 422 South Church  
4 Street, Charlotte, North Carolina. I am Senior Vice President and Chief Financial  
5 Officer of Duke Power, a division of Duke Energy Corporation.

6 Q. STATE BRIEFLY YOUR EDUCATION, ACCOUNTING BACKGROUND AND  
7 PROFESSIONAL AFFILIATIONS.

8 A. I am a graduate of the University of North Carolina with a Bachelor of Science in  
9 Business Administration. I am a Certified Public Accountant and a Certified  
10 Managerial Accountant, with memberships in the American Institute of Certified  
11 Public Accountants, the Institute of Managerial Accountants and the National  
12 Association of Accountants. I am also a member of the Edison Electric Institute  
13 Economic Regulation and Competition Committee and the Southeastern Electric  
14 Exchange Rate Committee.

15 Q. PLEASE DESCRIBE YOUR BUSINESS BACKGROUND AND EXPERIENCE.

16 A. I began my employment with Duke in the Controller's Department in July, 1980,  
17 and became Supervisor of the Catawba Interconnect Systems in May, 1986. In  
18 November, 1988, I became Director of Catawba Accounting. In September, 1991,  
19 I became Manager of Bulk Power Agreements in the System Planning and  
20 Operating Department. In November, 1992, I became Manager of the Rate

1 Department. In April, 1998, I became Vice President, Rates and Regulatory  
2 Affairs. I assumed my current position as Senior Vice President and Chief  
3 Financial Officer in March, 2003.

4 Q. ARE YOU FAMILIAR WITH THE ACCOUNTING PROCEDURES AND BOOKS  
5 OF ACCOUNT OF DUKE POWER?

6 A. Yes. As ordered by this Commission, the books of account of Duke Power follow  
7 the uniform classification of accounts prescribed by the Federal Energy Regulatory  
8 Commission.

9 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

10 A. The purpose of my testimony is as follows:

- 11 1. To furnish information relating to nuclear fuel purchasing and practices for  
12 the period April 2002 through March 2003.
- 13 2. To summarize the Company's procedures in accounting for fuel.
- 14 3. To update the actual fuel cost data reviewed in these proceedings. Actual  
15 fuel costs through March 2002 were presented in the last hearing. April  
16 2002 through March 2003 actual fuel cost data is presented in Young  
17 Exhibits 2 through 6 accompanying my testimony.
- 18 4. To summarize the performance of the Company's nuclear generating  
19 system during the period April 2002 through February 2003.
- 20 5. To discuss the fuel recovery results for the period April 2002 through May  
21 2003.
- 22 6. To provide and explain the Company's computations for the projected fuel  
23 costs in the twelve-month period June 2003 through May 2004 as  
24 presented in Young Exhibit 7.

1 Q. YOUR TESTIMONY INCLUDES 7 EXHIBITS. WERE THESE EXHIBITS  
2 PREPARED BY YOU OR AT YOUR DIRECTION AND UNDER YOUR  
3 SUPERVISION?

4 A. Yes. Each of these exhibits was prepared at my direction and/or under my  
5 supervision.

6 Q. MR. YOUNG, CAN YOU EXPLAIN HOW THE MONTHLY COAL COSTS  
7 CHARGED TO EXPENSE ARE DERIVED?

8 A. All the Company's coal is delivered by rail. As coal is received at each plant, it is  
9 weighed and sampled for quality verifications. Subsequently, the purchasing  
10 department compares the weight, price and quality with the purchase order and  
11 railroad waybill. Adjustments are made to the cost of coal purchased in those  
12 cases where the quality of the coal received varies from contract specifications for  
13 British Thermal Unit (BTU), ash, and sulfur content.

14 Moisture and BTU tests are also made as the coal is delivered to the coal  
15 bunkers for each boiler. BTU tests measure the energy content of the coal. To  
16 the extent that the moisture content of the coal burned differs from the moisture  
17 content of coal purchased, an adjustment is subsequently made to the inventory  
18 tonnage. Wet coal weighs more than dry coal and without the moisture  
19 adjustment, tons burned would be overstated and inventory would be understated.

20 Coal costs charged to expense are calculated on an individual plant basis.  
21 The expense charge is the product of the tons of coal conveyed to the bunkers for  
22 a generating unit during the month times the average cost of the coal. The  
23 number of tons is determined by using scales located on the conveyor belt running  
24 to the unit's coal bunkers. The average cost reflects the total cost of coal on hand  
25 as of the beginning of the month, computed using the moving average inventory

1 method, plus the cost of coal delivered to the plant during the month. The cost of  
2 coal is determined from the invoice for the coal and the freight bill and does not  
3 include any non fuel cost or coal handling cost at the generating station.

4 Physical inventories using aerial surveys are conducted annually. An  
5 adjustment to book inventory was made in December 2002 based on an aerial  
6 survey conducted in November 2002.

7 Q. PLEASE DISCUSS THE PERFORMANCE OF DUKE POWER'S FOSSIL  
8 GENERATING SYSTEM.

9 A. In 2002 the fossil steam generating plants provided approximately 50% of total  
10 generation. The heat rate for the fossil coal system was 9,368 BTU. Heat rate is  
11 defined as a measure of the amount of thermal energy needed to generate a given  
12 amount of electric energy and is expressed as BTUs per kilowatt-hour (Btu/kwh).  
13 A low heat rate indicates an efficient generating system that uses less heat energy  
14 from fuel to generate electrical energy. Duke has consistently been an industry  
15 leader in achieving low heat rates.

16 Q. PLEASE EXPLAIN HOW MONTHLY NUCLEAR COSTS CHARGED TO  
17 EXPENSE ARE DERIVED.

18 A. Nuclear fuel expense for the month is based on the energy output in units of  
19 millions BTUs (MBTUs) of each fuel assembly in the core, nuclear fuel disposal  
20 costs and the DOE Decontamination and Decommissioning Fund Fee.

21 The cost of each fuel assembly is determined when the fuel is loaded in the  
22 reactor. The costs include yellowcake (uranium), conversion, enrichment and  
23 fabrication. An estimate of the energy content of each fuel assembly is also made.  
24 A cost per MBTU is determined by dividing the cost of the assembly by its

1 expected energy output. Each month a calculation of the MBTU output of an  
2 assembly is priced at its cost per MBTU.

3 During the life of a fuel assembly, the expected energy output may change  
4 as a result of actual plant operations. When this occurs, changes are made in the  
5 cost per MBTU for the remaining energy output of the assembly. New fuel  
6 assembly orders are planned for cycle lengths of approximately eighteen months.  
7 The length of a cycle is the duration of time between when a unit starts up after  
8 refueling and when it starts up after its next refueling. During a refueling  
9 approximately one-third of the fuel in the reactor is replaced.

10 Q. WHAT IS SHOWN ON YOUNG EXHIBIT 1?

11 A. Young Exhibit 1 is a summary of nuclear fuel purchased and inventory. The cost  
12 components of nuclear fuel are uranium, conversion, enrichment and fabrication.  
13 The average price for uranium increased \$2.24 per pound, approximately 22%,  
14 due to a decreased fraction of total purchases in the period coming from lower  
15 priced spot market supplies and the fact that the spot market purchases in the  
16 period were higher than the spot market purchases in the previous period. The  
17 exhibit also shows uranium (or uranium equivalents) at the beginning and end of  
18 this reporting period. Uranium inventory is slightly higher than last year. Inventory  
19 levels fluctuate over time due to the number of reloads in process and the uranium  
20 requirements of such reloads. Therefore, future uranium inventories at any given  
21 point in time may be higher or lower than the current level depending on the  
22 associated timing of future reload requirements.

23 Q. MR. YOUNG, WHAT IS THE MAGNITUDE OF THE COMPANY'S MONTHLY  
24 FUEL COSTS?

1 A. Young Exhibit 2 sets forth the total system actual fuel costs (as burned) that the  
2 Company incurred from April 2002 through March 2003. This exhibit also shows  
3 fuel costs by type of generation and total megawatt hour (MWH) generated during  
4 this period. The monthly fluctuations in total fuel cost during this period are  
5 primarily due to refueling and other outages at the nuclear stations, weather  
6 sensitive sales and the availability of hydro generation.

7 Q. MR. YOUNG, WHAT IS THE MAGNITUDE OF THE COMPANY'S FUEL COST  
8 COMPARED TO THE TOTAL COST OF SERVICE?

9 A. Fuel costs continue to be the largest cost item incurred in providing electric service.  
10 For the twelve months ended February 2003, fuel and the fuel component of  
11 purchased power represented approximately 19% of the Company's total revenue.  
12 Coal costs are the largest fuel cost component and during the period April 2002  
13 through March 2003 comprised approximately 73% of the Company's fuel bill.

14 Q. MR. YOUNG, WHAT HAS HAPPENED TO THE UNIT COST OF FUEL DURING  
15 RECENT REPORTING PERIODS?

16 A. Young Exhibits 3A and 3B graphically portray the "as burned" cost of both coal and  
17 nuclear fuel in cents per MBTU for the twelve month periods ending January 2001  
18 through March 2003. As Exhibit 3A shows, coal costs increased during the period  
19 and reflect the impact of the tariff freight rates being paid by the Company partially  
20 offset by lower mine costs. Exhibit 3B shows that nuclear fuel costs have been  
21 flat.

22 While the unit costs of each type of fuel have shown little volatility in the  
23 recent past, we can expect our composite cost of fuel to increase. Our future  
24 KWH growth will be met primarily from the Company's coal generating units and  
25 the cost of coal is about three times the cost of nuclear fuel.

1 Q. MR. YOUNG, WHAT DOES YOUNG EXHIBIT 4 SHOW?

2 A. Young Exhibit 4 graphically shows generation by type for the current and projected  
3 test periods as well as three prior periods.

4 Q. MR. YOUNG, WOULD YOU PLEASE DISCUSS THE PERFORMANCE OF THE  
5 COMPANY'S NUCLEAR GENERATING SYSTEM DURING THE PERIOD APRIL  
6 2002 THROUGH MARCH 2003?

7 A. Young Exhibit 5 sets forth the achieved nuclear capacity factor for the period April  
8 2002 through March 2003 based on the criteria set forth in Section 58-27-865,  
9 Code of Laws of South Carolina as amended in 1996. The statute states as  
10 follows:

11 There shall be a rebuttable presumption that an electrical  
12 utility made every reasonable effort to minimize cost  
13 associated with the operation of its nuclear generation  
14 facility or system, as applicable, if the utility achieved a net  
15 capacity factor of ninety-two and one-half percent or higher  
16 during the period under review. The calculation of the net  
17 capacity factor shall exclude reasonable outage time.

18 As shown on page 1 of Young Exhibit 5, the Company's achieved capacity  
19 factor reflecting reasonable outage time (as set forth in § 58-27-865) was greater  
20 than 92.5% for the current period.

21 With the refueling requirements, maintenance requirements, Nuclear  
22 Regulatory Commission (NRC) operating requirements, and the complexity of  
23 operating nuclear generating units our system will almost always have the  
24 equivalent of at least one nuclear unit out of service. Pages 2 and 3 of Young  
25 Exhibit 5 show the dates of and explanations for actual and forecast outages of a  
26 week or more in duration.

27 Q. MR. YOUNG, DO YOU BELIEVE THE COMPANY'S ACTUAL FUEL COSTS  
28 INCURRED DURING THE PERIOD APRIL 2002 THROUGH MARCH 2003  
29 WERE REASONABLE?

A. Yes. I believe the costs are reasonable and meet the guideline test set forth in Section 58-27-865(f) of the Code of Laws of South Carolina. They also reflect the Company's continuing efforts to maintain reliable service and an economical generation mix, thereby minimizing the total cost of providing service to our South Carolina retail customers.

Q. WHAT FUEL FACTORS HAS THIS COMMISSION APPROVED IN THE PAST?

A. The following table shows the approved factors since 1979, when the current fuel clause procedure began:

<u>Period</u>	<u>Periods</u>	<u>¢/KWH</u>
June 1979 - May 1980	2	1.3500
June 1980 - May 1981	2	1.2250
June 1981 - November 1981	1	1.5000
December 1981 - May 1982	1	1.5750
June 1982 - November 1982	1	1.6500
December 1982 - May 1983	1	1.6000
June 1983 - May 1984	2	1.3750
March 1984		1.0500
June 1984 - November 1984	1	1.1250
December 1984 - November 1985	2	1.2500
October 1985		1.1199
December 1985 - November 1986	2	1.1199
November 1986		0.9806
December 1986 - May 1987	1	0.9806
June 1987 - November 1987	1	1.1500
December 1987 - November 1988	2	1.2500
December 1988 - November 1989	2	1.0750
December 1989 - May 1990	1	1.0500
June 1990 - November 1990	1	1.0000
December 1990 - November 1991	2	1.1000
December 1991 - May 1992	1	1.0000
June 1992 - November 1993	3	0.9500
December 1993 - May 2000	10	1.0000
June 2000 - May 2003	3	0.9500

Q. WHAT HAS BEEN THE COMPANY'S FUEL RECOVERY EXPERIENCE DURING THE PERIOD APRIL 2002 THROUGH MARCH 2003?

A. Young Exhibit 6 shows the actual fuel costs incurred for the period April 2002 through March 2003, the estimated fuel costs for April and May 2003 and the over-



1 recovery carried forward at the beginning of the period. This exhibit compares the  
2 fuel costs incurred with the fuel rate being collected. The Company started the  
3 period over-recovered by \$7,446,000 as shown on line 12. As shown on line 13,  
4 the Company is projecting an under-recovery at the end of the period of  
5 \$7,470,000 which includes a reduction of \$6,250,000 in accordance with the  
6 Settlement Agreement approved by the Commission in a meeting on November  
7 19, 2002. The Company's fuel costs were impacted by tariff freight rates imposed  
8 by the Surface Transportation Board (STB) as testified to by Witness Batson. This  
9 was offset somewhat by strong nuclear performance and a \$10.6 million payment  
10 of an arbitration award resulting from arbitration of a contract dispute with a major  
11 coal supplier. This payment was credited to coal inventory in February 2003.

12 Q. MR. YOUNG, WHAT IS THE COST OF FUEL THE COMPANY PROJECTS FOR  
13 RECOVERY DURING THE PERIOD JUNE 2003 THROUGH MAY 2004?

14 A. Young Exhibit 7 sets forth projected fuel costs for the period June 2003 through  
15 May 2004. As shown on line 7, the fuel cost estimated for recovery during this  
16 period is 1.2242¢/KWH. After adjusting for the cumulative under-recovery, the  
17 adjusted fuel cost is 1.2587¢/KWH.

18 Q. WHAT WAS THE BASIS FOR ESTIMATING FUEL COSTS AS SHOWN ON  
19 YOUNG EXHIBIT 7?

20 A. The latest available information was used to develop the projections shown on  
21 Young Exhibit 7. The projected kWh sales on line 6 are from the Company's 2003  
22 sales forecast. Projected nuclear generation reflects planned outages, which  
23 include refueling outages at four units and outages at two Oconee units to replace  
24 the steam generators and reactor vessel heads as well as to refuel the units. The  
25 projection of fuel costs are based on a 97% capacity factor for the nuclear units

1 while they are running. The Company's most recent nuclear fuel cost estimate  
2 was used to determine projected nuclear fuel expense. Estimated hydro  
3 generation for the period is based on median generation for the period 1972 -  
4 2002.

5 Q. PLEASE DESCRIBE HOW DUKE INCLUDES FUEL COSTS RELATED TO  
6 PURCHASES IN ITS FUEL RATE.

7 A. Section 58-27-865, Code of Laws of South Carolina, as amended in 1996, defines  
8 fuel costs as including the "fuel costs related to purchased power." For the period  
9 April 2002 through March 2003, the Company calculated fuel costs for energy  
10 purchases and included these costs in its calculation of fuel recovery. In some  
11 cases, entities selling energy to Duke specified on the invoice the component of  
12 the purchase that is fuel. In those cases, Duke included in fuel costs the fuel  
13 component of the sale as identified by the seller. In other cases, entities did not  
14 specify the component of the sale that is fuel. In those cases, the Company used  
15 the avoided cost method to determine the fuel component of the sale. Under this  
16 methodology, the Company determines the costs it would have incurred in the  
17 absence of the purchase and includes in fuel costs the lower of the cost Duke  
18 would have incurred or the cost of the energy purchase. Duke's customers thereby  
19 are ensured of receiving the benefit of economic energy purchases.

20 In projections of fuel costs for the period April 2003 through May 2004, the  
21 Company estimates fuel costs of energy purchases based on historical purchase  
22 quantities and price.

23 Q. MR. YOUNG, WHAT FUEL FACTOR IS THE COMPANY PROPOSING FOR  
24 INCLUSION IN BASE RATES EFFECTIVE JUNE 1, 2003?

- 1 A. The Company proposes a fuel factor of 1.150¢/KWH for the period June 1, 2003  
2 through May 31, 2004. Based on our estimate, this fuel factor would result in the  
3 Company under-recovering its fuel cost at the end of the period. This factor  
4 balances out over/under-recoveries of fuel costs over time and is in keeping with  
5 the spirit of the statute which allows utilities to recover prudently incurred fuel costs  
6 "in a manner that tends to ensure public confidence and minimize abrupt changes  
7 in charges to consumers."
- 8 Q. MR. YOUNG, DOES THAT CONCLUDE YOUR TESTIMONY?
- 9 A. Yes, it does.